BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NO. 2022-1-E

In the Matter of Annual Review of Base Rates for Increase in Fuel Costs for Duke Energy Progress, LLC	)))	**REBUTTAL TESTIMONY OF** **JAMES J. MCCLAY, III FOR** **DUKE ENERGY PROGRESS, LLC**

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION.

A. My name is James J. McClay, III. I am Managing Director of Natural Gas Trading for Duke Energy Corporation ("Duke Energy"), and my business address is 526 South Church Street, Charlotte, North Carolina 28202.

Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL EXPERENCE.

A. I received a Bachelor's degree in Business Administration from St. Bonaventure University. I have worked in the energy industry for 26 years. Prior to that, I had approximately 13 years of experience as a US Government Fixed Income Securities Trader with various financial firms including Paribas Capital Markets and Cantor Fitzgerald. I joined Progress Energy in 1998 as an Energy Trader. I was promoted to Manager of Power Trading and held that position until 2003. From 2003 through 2007, I was Director of Power Trading and Portfolio Management for Progress Energy Ventures, Progress Energy's unregulated affiliate. From March 2007 through late 2008, I was Director of Power Trading for Arclight Energy Marketing upon the sale of Progress Energy Ventures to Arclight. Since returning to Progress Energy in March 2009, I've held various managerial roles including Manager of Gas and Oil Trading for both Progress Energy and subsequently Duke Energy following the merger of Duke Energy and Progress Energy in 2012. In May 2019, I was promoted to Director of Trading and in August of 2021, I assumed my current position as Managing Director of Natural Gas Trading. As Managing Director of Natural Gas Trading, I manage the organization responsible for the natural gas trading, optimization and scheduling

functions for the regulated gas-fired generation assets in the Carolinas, Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" or the "Company"), Duke Energy Florida, Duke Energy Indiana and Duke Energy Kentucky (collectively, the "Utilities"), as well as the organization responsible for power trading for Duke Energy Indiana and Duke Energy Kentucky. Additionally, I oversee the execution of the Utilities' financial hedging programs, fuel oil procurement, and emissions trading.

II. PURPOSE AND SCOPE

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to the testimony and recommendations offered by Mr. Gregory Lander on behalf of Southern Alliance for Clean Energy and South Carolina Coastal Conservation League ("SACE/CCL").

Q. WHAT IS THE PURPOSE OF THIS PROCEEDING?

A. It is my understanding that the purpose of this fuel proceeding is to examine the Company's fuel purchasing practices and review the Company's proposed fuel rates.

Q. HAS WITNESS LANDER RECOMMENDED ANY CHANGES TO THE FUEL RATES PROPOSED BY THE COMPANY?

A. No. Witness Lander has not recommended any changes to the Company's proposed fuel rates. His testimony focuses on the recent volatility of natural gas prices and the suggestion that the Company should utilize a "physical hedge" to mitigate natural gas price volatility by building additional utility scale renewable energy facilities. Witness Lander also discusses the Company's approach to forecasting but does not make any recommendation that is germane to the purpose of this proceeding.

Q. PLEASE PROVIDE YOUR GENERAL RESPONSE TO THE TESTIMONY OF SACE/CCL WITNESS GREGORY LANDER.

A. Witness Lander and I agree that natural gas prices are "volatile, and are subject to domestic – and increasingly, international – supply and demand factors".[1] We also seem to agree, at a high level, that in addition to normal supply and demand pressures recent factors such as the energy crisis in Europe and gas producers' lack of production response could continue to put upward pressure on gas prices in the near term. Finally, we agree that hedging does "help reduce volatility and to stabilize prices for a portion of…generation fuel supply"[2] and that customers experienced the benefits, not only over the test period, but in the estimated billing period as well. In fact, for the review period, the Company hedged nearly 50% of its actual natural gas volumes resulting in savings of approximately $11M for South Carolina retail customers. The Company's billing period estimates are also inclusive of the Company's forward hedging positions in place at the time the estimate is calculated. Accordingly, my testimony briefly discusses the Company's financial natural gas hedging program as well as its physical hedging approach in response to Witness Lander's testimony on these topics. Witness Lander also discusses the Company's approach to forecasting but does not make any recommendation that is germane to the purpose of this proceeding.

Q. PLEASE RESPOND TO WITNESS LANDER'S RECOMMENDATION THAT THE COMPANY SHOULD USE WIND AND SOLAR ENERGY TO THE FULLEST EXTENT POSSIBLE TO HEDGE AGAINST FOSSIL FUEL PRICE VOLATILITY, INCLUDING BUILDING ADDITIONAL UTILITY SCALE WIND AND SOLAR FACILITIES.

[1] Lander Direct, pg. 8, line 14 & 15.
[2] Lander Direct, pg. 11, line 6 & 7.

A. The Company generally agrees that renewable energy resources are important components of the continued reliability and resiliency of the electric grid. However, the Company believes the fuel rider proceeding, established in S.C. Code Ann. § 58-27-865 is not the appropriate forum in which to evaluate these resources. Rather, the Company believes the intent of the South Carolina General Assembly is for resource planning discussions to be had in the Integrated Resource Plan ("IRP") framework established in accordance with S.C. Code Ann. § 58-37-40. The Company looks forward to continuing the conversation in future IRP proceedings.

III. NATURAL GAS FUEL HEDGING

Q. PLEASE DESCRIBE THE COMPANY'S APPROACH TO FUEL HEDGING.

A. The Company uses a phased hedging approach where financial hedges are executed over time for a percentage of the Company's forecasted natural gas burns. The strategy includes utilizing fixed price financial instruments including fixed price swaps and cost-less collar options to hedge price exposure to natural gas markets on a rolling 60-month period. DEP maintains target hedge percentages for each of the 12-month periods within the rolling 60-month period. The volumes hedged over time represent a portion of DEP's forecasted burns with higher hedging targets in the first 12 to 24 months and lower hedging targets in the 36 to 60-month period. The actual hedge percentage positions can change as commodity price relationships between coal and natural gas impact the economic dispatch order; but the hedge targets provide a framework for executing a layered hedging strategy. DEP's multi-year rolling approach to executing fixed price transactions for a portion of projected natural gas burns over time provides a reasonable and prudent approach to mitigate price volatility in the uncertain fuel markets. This strategy also allows DEP more

flexibility to adjust hedging volumes to accommodate changes in its forecasted natural gas consumption that will occur as market conditions change.

Q. DOES THE COMPANY REVIEW AND UPDATE ITS HEDGING PROGRAM AS A RESULT OF CHANGING MARKET CONDITIONS?

A. The Company continuously evaluates its hedging program to ensure that it remains appropriate based on market conditions and the Company's strategy. In late 2020, the Company extended its hedging program from 36 months to 60 months to mitigate customers' exposure to future upward pressure on U.S. market prices as the Company's forecasted gas usage continued to grow over time. During its review in 2021, the Company further increased the hedging target ranges for the periods of 25 to 60 months by an additional five percent as this higher percentage in the outer periods continues to decrease gas price exposure and smooth the transition from one hedging period to another as the outer periods move closer to prompt.

Q. DOES THE COMPANY ENGAGE IN ANY PHYSICAL HEDGING OF NATURAL GAS SUPPLY?

A. Yes. As an example, to reduce exposure to Transco Zone 5 monthly and daily prices, the Company contracts for optional physical natural gas supply through monthly calls and daily optimization of its physical gas storage. The Company can call on these products to be utilized when generation is needed to meet system demand. Additionally, following a review of the physical hedging program in late 2014, the Company increased its percentage of base load first of the month fixed price gas purchased to supply its combined cycle generation in order to mitigate the risk of daily gas price spikes.

IV. PROPOSED FORECASTING REQUIREMENT

Q. HAS THE COMPANY REVIEWED ITS FORECASTING PROCESS TO EVALUATE THE RISK OF SIGNIFICANT UNDER-RECOVERY OF FUEL COSTS FROM CHANGING NATURAL GAS PRICES?

A. Yes, following the North Carolina Utilities Commission ("NCUC") Order Approving Fuel Charge Adjustment ("2019 Fuel Order") in Docket No. E-2, Sub 1204, directing the Company to "evaluate historic price fluctuations and whether its current method of forecasting and hedging programs should be adjusted to mitigate the risk of significant under-recovery of fuel costs and report the results of that evaluation in the Company's next fuel proceeding"[3] the Company conducted a review and filed the results in Docket E-2, Sub 1250.

Q. WHAT WERE THE RESULTS OF THE REVIEW?

A. In summary, the Company reviewed both its fuel forecasting and physical hedging methodologies and "determined that no adjustments were needed to its current method of forecasting or to its physical hedging program…The Company also recommend[ed] extending financial hedging activities for a lower percentage in rolling years four and five to mitigate costs risks for customers."[4] While the NCUC did not specifically address the results of the review, the results were laid out in its Order Approving Fuel Charge Adjustment in Docket No. E-2, Sub 1250 under the evidence and conclusions for finding of

[3] Order Approving Fuel Charge Adjustment, Docket No. E-2, Sub 1204 (November 25, 2019), at 39.

[4] Order Approving Fuel Charge Adjustment, Docket No. E-2, Sub 1250 (November 30, 2020), at 11.

Fact No. 6. Finding of Fact 6 states "The Company's fuel and reagent procurement and power purchasing practices during the test period were reasonable and prudent."[5]

Q. DURING THIS REVIEW DID THE COMPANY CONSIDER AN APPROACH SUCH AS WITNESS LANDER'S RECOMMENDATION OF INCORPORATING PERIODIC GAS PRICE SPIKES INTO ITS FORECASTED FUEL COSTS?

A. The Company performed a review of its forecasting method and historical natural gas price fluctuations to determine if adjustments, including those similar to Witness Lander's recommendation, would be warranted to mitigate the risk of significant under recoveries. Following this review the Company found that: 1) the observed natural gas market prices utilized for the applicable forecast are the market forward Henry Hub prices and observed locational basis that are observed in the market at the time the forecast is prepared and represents the best estimate of forecasted prices at that time; 2) mild weather or an extreme winter weather event and corresponding impacts to the balance of supply and demand were a significant driver of differences in the actual market natural gas prices from those utilized in the applicable forecast; 3) weather trends over a season or short-term extreme weather events and their corresponding impacts to the balance of supply and demand are not known and cannot be fully predicted nor forecasted without introducing significant speculation into the forecasting process; and, 4) given the time lag between the forecast and the end of the applicable billing period, numerous changes will occur between the actual outcomes versus the inputs that existed at the time of the forecast. Only with the benefit of hindsight could inputs such as actual weather events, prices, and system cost impacts be known. Additionally,

[5] *Id.* at 4.

the forward natural gas market curves that are incorporated into the Company's fuel forecasts at any point in time represent what is known about supply and demand and are reflective of supply and demand dynamics and trends. Currently, forward market prices reflect tightening supply and demand fundamentals. Tight supply and demand fundamentals are expected to remain until there is a responsive increase in natural gas production or a decrease to demand due to factors such as, but not limited to, mild weather trends or other economic shifts that could result in lower consumption.

Therefore, in the Company's view, incorporating historical high market price events or other speculative forecasting assumptions into the Company's current forecasting processes to potentially mitigate large under-recoveries is speculative and could arbitrarily increase forecasted costs billed to customers with the unwanted consequence of more consistent over-recoveries over the long-term.

Q. HAS THE COMPANY CONSIDERED INCORPORATING ANY CHANGES THAT COULD PROVIDE THE COMPANY WITH ADDITIONAL FORECASTING MODELING CAPABILITIES?

A. Yes, beginning in 2020 the Company began incorporating the outputs of its Fleet Analytics Stochastic Tool "FAST" model into its fuel planning, procurement, and hedging processes for 2021 and beyond. The Company continues to review additional opportunities to expand the use of stochastic production cost modeling and related outputs into its overall forecasting process to better calculate the range of costs that could occur throughout the forward period.

Q. PLEASE EXPLAIN THE MODEL CHANGES UTILIZING STOCHASTIC CAPABILITIES.

A. In summary, the stochastic production cost model uses historical weather information to simulate numerous iterations or scenarios of future weather and load. For each of these iterations, system load and commodity prices (gas, coal, oil, and power) are all calculated in a correlated manner using historical correlations with each other and with weather. For example, if in a simulated iteration, winter is particularly cold, then that iteration would have higher load and higher gas and power prices. It should be noted that the average of all simulated commodity prices matches the underlying market forward price while providing a range of daily prices that can occur throughout forward periods. The resulting forecasts produced from the stochastic production cost model give the Company not only expected fuel burns, but also the probability associated with various ranges of fuel burns.

Q. HAS THE COMPANY MADE ANY OTHER CHANGES TO THE MODELING PROCESS TO ADDRESS THE TIMELINESS OF THE FORECAST?

A. Yes. Commission Order No. 2021-668 instructed DEC to "base its testimony in future fuel dockets on a fuel forecast prepared within thirty days of the prefiling deadline for testimony…. [i]f DEC cannot base its forecasts on such information, then DEC must advise and explain to the Commission why as part of its testimony and the best available forecasting data then should be used." In light of the Commission's order in the 2021 DEC fuel proceeding, DEP preemptively complied with Order No. 2021-668 in this proceeding.

By leveraging work already performed during the monthly commodity generation forecast and incorporating refreshed cost projections, the Company was able to expand its forecast cycle to include an additional two cycles timed as close as possible to the South Carolina fuel proceedings' direct testimony filing deadlines. Although DEP was unable to base its proposed billed rates on a forecast prepared within 30 days of filing direct testimony,

the Company was able to base its proposed billed rates on a forecast prepared within 42 days of filing direct testimony. This is an improvement from 103 days, which was the age of the forecast used in the 2021 DEP fuel proceeding. This is the timeliest forecast data available for purposes of this fuel proceeding, as discussed in greater detail in Witness Harrington's testimony.

V. FORECASTING RECOMMENDATIONS

Q. DO YOU AGREE WITH WITNESS LANDER'S RECOMMENDATION THAT THE COMMISSION REQUIRE THE COMPANY IN FUTURE FUEL CASES TO FILE AN ADDITIONAL FORECAST INCORPORATING A "15% OR GREATER PRICE SPIKE"?[6]

A. No. As discussed earlier in my testimony the Company has reviewed its forecasting method and historical natural gas price fluctuations to determine if such an adjustment as recommended by Witness Lander would be warranted. The Company does not believe that arbitrarily incorporating historical high market price events or other speculative forecasting assumptions into the Company's current forecasting processes to potentially mitigate large under-recoveries is beneficial to customers in the long run. Instead, the Company continues to work towards expanding the use of stochastic production cost modeling and related outputs into its overall forecasting process to better calculate the range of costs that could occur throughout the forward period.

Q. DO YOU AGREE WITH WITNESS LANDER'S RECOMMENDATION THAT THE COMMISSION REQUIRE THE COMPANY TO FILE IN FUTURE FUEL CASES MONTH BY MONTH FORECASTS FOR THE REVIEW PERIOD?

[6] Lander Direct, pg. 22, line 13.

A. No. Pursuant to the Stipulation agreed to in last year's DEP fuel proceeding, to which SACE/CCL is a signatory, the Company has agreed "in an effort to keep the Stipulating Parties . . .informed of the (over)/under recovery balances related to fuel costs and of DEP's commercially reasonable efforts to forecast the expected fuel factor to be set at its next annual fuel proceeding, DEP will provide to the ORS, and where applicable, its other customers . . .quarterly forecasts . . . of the expected fuel factor to be set in the next annual fuel proceeding based on DEP's historical (over)/under recovery to date and DEP's forecast of prices for uranium, natural gas, coal, oil and other fuel required for generation of electricity."[7] Implementing a monthly forecast requirement would not provide the parties any additional, measurable insights into the Company's (over)/under recovery or the expected fuel factor or serve any relevant purpose in reviewing the Company's actual fuel costs or its estimated rates for the billing period.

Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?

A. Yes, it does.

[7] Docket No. 2021-1-E, Stipulation between the South Carolina Office of Regulatory Staff, Nucor Steel-South Carolina, the South Carolina Coastal Conservation League and the Southern Alliance for Clean Energy, and Duke Energy Progress, LLC, pgs. 8-9 (June 7, 2021).